

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please WITHDRAW claims 4-5, 11-12 and 15 from consideration, and AMEND claims 1-3, 6-10 and 13-14 in accordance with the following:

Claim 1 (Currently Amended): A method of manufacturing polycrystalline silicon thin film using a laser beam to crystallize an amorphous silicon thin film, the method comprising; forming an amorphous silicon layer on a substrate; and

irradiating the amorphous silicon layer using a laser beam, and transversely moving the mask relative to the substrate by a translation distance such that the laser beam is overlappingly irradiated at an overlapping region on the substrate where amorphous silicon and a part of already crystallized polycrystalline silicon are exposed so as to increase an average width of the polycrystalline silicon grains,

wherein a width of the overlapping region during crystallization corresponds to the translation distance, and is varied between 0.5 μm and 2 μm .

~~overlappingly irradiating the laser beam onto a region wider than 0.5 μm when crystallizing the amorphous silicon thin film.~~

Claim 2 (Currently Amended): The method of manufacturing polycrystalline silicon thin film according to claim 1, wherein the average width of the polycrystalline silicon grains is at least 2 μm , and is decreased when the width of the overlapping region onto which the laser beam is overlappingly irradiated is larger than 1 μm decreased.

Claim 3 (Currently Amended): The method of manufacturing polycrystalline silicon thin film according to claim 1, wherein a sequential lateral solidification (SLS) crystallization method (sequential lateral solidification) is used for laser crystallization.

Claim 4 (Withdrawn): A thin film transistor comprising the polycrystalline silicon thin film manufactured according to the method of claim 1.

Claim 5 (Withdrawn): The thin film transistor according to claim 4, wherein an average width of grains of the polycrystalline silicon thin film is at least 0.2 μm .

Claim 6 (Currently Amended): A method of manufacturing polycrystalline silicon thin film by crystallizing amorphous silicon using a laser beam, the method comprising:
forming an amorphous silicon layer on a substrate;
irradiating the amorphous silicon layer using a laser beam that passes through a mask such that polycrystalline silicon grains are laterally grown from a boundary between liquid and solid silicon, wherein the mask is provided with at least a light transmission region for passing a laser beam and a laser non-transmission region for blocking the laser beam, and with a the laser transmission region that is wider than a the laser non-transmission region by more than 1 μm ; and
transversely moving the mask relative to the substrate by a translation distance such that the laser beam is overlappingly irradiated at an overlapping region on the substrate where amorphous silicon and a part of already crystallized polycrystalline silicon are exposed.

Claim 7 (Currently Amended): The method of manufacturing polycrystalline silicon thin film according to claim 6, wherein the mask is formed in a rectangular shape having a stripe pattern of light transmission regions and light non-transmission regions.

Claim 8 (Currently Amended): The method of manufacturing polycrystalline silicon thin film according to claim 6, wherein a width of the overlapping region during crystallization corresponds to the translation distance, and overlappingly irradiated width of the thin film is larger than varied between 0.5 μm and 2 μm .

Claim 9 (Currently Amended): The method of manufacturing polycrystalline silicon thin film according to claim 8, wherein the average width of the polycrystalline silicon grains is at least 2 μm , and is decreased when the width of the overlapping region on which the laser beam is overlappingly irradiated is decreased overlappingly irradiated width is 1 μm or more.

Claim 10 (Currently Amended): The method of manufacturing polycrystalline silicon thin film according to claim 6, wherein ~~SLS-(a sequential lateral solidification (SLS) crystallization method is used for laser crystallization.~~

Claim 11 (Withdrawn): A thin film transistor comprising the polycrystalline silicon thin film manufactured according to the method of claim 6.

Claim 12 (Withdrawn): The thin film transistor according to claim 11, wherein an average width of grains of the polycrystalline silicon is at least 0.2.

Claim 13 (Currently Amended): A method of manufacturing polycrystalline silicon thin film, the method comprising:

irradiating an amorphous silicon on a thin film using a laser beam that passes through a mask having a light transmission region and a light non-transmission region, to form crystalline silicon;

transversely moving the mask relative to the thin film by a translation distance; and
overlappingly irradiating an already formed crystalline silicon in a region that corresponds to the translation distance and has a width larger than varied between 0.5 µm and 2 µm.

Claim 14 (Currently Amended): The method according to claim 13, wherein the overlapping irradiation is done by moving the laser transmission region of the mask more than by the translation distance between 0.5 µm and 2 µm.

Claim 15 (Withdrawn): A thin film transistor comprising a polycrystalline thin film having an average grain width of at least 0.2 µm, wherein the thin film was formed by overlappingly irradiating a region of the thin film, the region being more than 0.5 µm wide.